Section of Pediatrics, January 13, 1927

EPIDEMIC MENINGITIS IN THE FIRST THREE MONTHS OF LIFE

JOSEPHINE B. NEAL
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The literature on epidemic meningitis in infancy is meager.

In the very young the symptoms are so atypical that we believe the diagnosis is often not made at all, or not until late, which accounts for the high mortality.

We are limiting our study to those cases occurring during the first three months of life.

We have fifty-four cases with the following etiological distribution:

Age	Meningococcus	Pneumococcus	T. B.			
3 mos.	25	7	5			
		B. coli	Influenza	Mic. Cat.	Total	
		3	2	1	54	

The cases due to the meningococcus greatly predominate.

The outstanding symptoms in infancy are gastro-intestinal. Onset is fairly acute and the symptoms do not respond to ordinary treatment. Fever is irregular and child is irritable and hyperesthetic. The classical signs of meningitis are usually absent until late. Always look for a bulging fontanelle. We are usually called in consultation when the case is well advanced.

Our treatment is conservative. A lumbar puncture is done every 24 hours, as much spinal fluid is drawn off as possible and 20 cc. of antimeningitis serum administered intra-spinally, if it runs in easily by gravity. We give serum intravenously only in septicemic cases and resort to ventricular or cisternal punctures only when there is a blockage.

In our group of 25 cases, two are not included in the mortality as treatment was refused. We had a mortality of 47.8 per cent. on the remaining 23 cases.

Our youngest patient to recover was first seen when 25 days old, and on the second puncture no fluid was obtained, but the serum ran in readily. This also happened on the 4th, 5th and

6th puncture. This is an instance where many would have resorted to ventricular or cisternal punctures and would have attributed the recovery to those methods of treatment.

Our sequelæ have been surprisingly few. Of the twelve recovered cases one could not be traced. Of the eleven followed up one is deaf and the other ten made complete recoveries.

Section of Pediatrics, January 13, 1927

ENCEPHALITIS ASSOCIATED WITH MEASLES

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It has been recognized for a long time that the various acute infections as measles, scarlet fever, pneumonia, pertussis, etc., may be followed by encephalitis. While we have seen a few instances of encephalitis following various of the acute infectious diseases, by far the largest number, twelve, have been associated with measles. During the year 1926, particularly, we have seen a comparatively large number, eight.

The clinical picture is of a highly variable character. The onset of this condition was usually sudden and developed during or a few days after the attack of measles. Fever and headache were almost constant symptoms. Convulsions were present in about half the cases. The most striking of all the symptoms were changes in the mental condition, varying from a mild degree of irritability or apathy to profound stupor or delirium. Some form of paralysis was present in one third of our cases.

The physical signs were chiefly those due to varying degrees of meningeal irritation or increased intracranial pressure. Stiffness of the neck, Kernig sign, Brudzinski sign, bulging fontanelle or positive Macewen were noted in a fair proportion of cases. The condition of the reflexes was highly variable. While ocular symptoms were rare, they were rather striking when present. One case was apparently blind. Fixed dilation of pupils was present in two cases. There were also two instances of nystagmus and strabismus.

One or more lumbar punctures were performed in every case. The fluids usually came out under increased pressure and were clear in all but two instances, which were contaminated by a few red blood cells. Practically all the spinal fluids showed some evidence of abnormality. There was usually a slight or moderate increase in cells, most of which were mononuclears. In most instances there was also a slight or moderate increase in protein content. The sugar was uniformly normal or high. Smears and cultures were all negative for organisms.

It is obvious that all forms of encephalitis present more or less similar clinical pictures. The diagnosis of our cases of encephalitis associated with measles was based almost exclusively on the manifestations of encephalitis occurring during or shortly after an attack of measles. Indeed there was nothing in the clinical picture alone to rule out definitely epidemic encephalitis. It may be noted, however, that the onset was more sudden and with one exception the duration was much shorter than is usually the case in epidemic encephalitis.

Six cases are cited to illustrate the various types of this condition.

Of the twelve cases in the series three died, a mortality of 25 per cent. Seven of the nine recovered cases were followed up. All made a prompt and complete recovery with one exception. This patient, after an illness of more than eight months, has become a mental defective. He also has frequent *petit mal* seizures.

It is obviously impossible to make a definite statement as to the etiology and pathology of this condition. The subject certainly merits further study.

Section of Pediatrics, January 13, 1927

A STUDY OF TUBERCULIN-POSITIVE CHILDREN IN FOSTER HOMES

ARTHUR FORREST ANDERSON

The report comprises a study of tuberculin-positive children in a large foster home department. The 127 children followed, ranging from four months to seven years of age, belonged to the group of so-called latent or inactive tuberculosis.

These children were placed in individual homes in and about New York City, and were followed at frequent intervals by the workers. The results were extremely encouraging and pointed to the adaptability of the plan of home-care on a larger scale.

Section of Otology, January 14, 1927

THE PHILOSOPHY OF THE OLDER TESTS OF HEARING

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The purpose of functional testing is to determine the presence and degree of impaired hearing, if any, and, secondly, to decide the location of the hearing defect. In the examination of the hearing functions the voice, acoumeter, watch, Koenig rods, tuning forks, resonators, whistles, monochord and audiometers are employed. Observation of the patient is an important factor with reference to the loudness of the voice, attitude of head, lip reading, etc. The otoscopic examination includes a careful inspection of the external ear, the tympanic membrane and mastoid region, the nasal, nasopharyngeal and pharyngeal regions. When testing with the voice by means of unaccentuated whisper or conversation, the patient's eyes are closed or averted and the opposite ear occluded. High and low tones and combinations of both should be used. After inflation of the ears, again test with the voice.

Tuning forks are used very largely to determine the upper and lower tone limits, as well as the carrying out the Schwabach, Weber, Rinne and other tests: The prongs of the fork move in transverse vibrations of great amplitude but slight intensity, while from the stem arise longitudinal vibrations of great intensity but small amplitude. Testing for the low limit begins with C–2 (16 d. v.) fork and proceeds upward. For high tones C–4 (1028 d. v.) and C–5 (4096 d. v.) forks are used. For still higher tones a modification of the Galton Whistle, such as the Edelmann-Galton or Schaefer-Galton is used, or best of all the monochord, with which the highest tones may be tested both by air and bone conduction.